CS 161 Week 7 Worksheet (2 points)

Memory Model, 1D array, and C-style string

Memory Model
1. Define these terms:
    a. Compile time memory

    b. Runtime memory

    c. Allocate

    d. Deallocate

2. Compare and contrast the stack and the heap.
    a. What they do?

    b. Where do they live?

    c. Can they both be deleted?

3. What is dynamic memory?

4. What is a memory leak, and how do you prevent them?

5. How does this apply to what you have learned about 1-D arrays?

1D Array

6. Write a function called "get_array()" that will ask the user for a size, then return an array of integers on the heap of that size, consider what return type this function has:

   _____ get_array(int size) {

   }

7. What are the issues with making the array on the stack in the function above?

8. Looking at the function we made in question 6, could we have made this function a void function? What are your two options in C++? Write both functions and function calls.